

Section 4: The Next Generation of Energy: Renewable Energy and Energy Efficiency Industries in Washington State

For the Energy Division of the Department of Community, Trade, and Economic Development

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The following is the executive summary of a recent survey and analysis of the renewable energy and energy efficiency industries in our state. The report demonstrates that the industry is an important contributor to the state's economy. The amount economic activity of the renewable and energy efficiency industries in our state is approximately the same as Washington's wholesale apple industry.

Executive Summary

Washington's Clean Energy Industry in Transition

The energy industry is in flux, as growing competition, new technologies for energy production, and rising environmental concerns about greenhouse gases are all contributing to the reshaping of the industry. Within this context of change, the Washington Department of Community, Trade and Economic Development commissioned a study of the state's energy efficiency and renewable energy industries. This report describes Washington's energy efficiency and renewable energy industries and explores how those industries are likely to react to current market conditions and public policies.

Clean Energy Is a Billion-dollar Industry

Together, the energy efficiency and renewable energy industries in Washington State generate yearly sales of nearly \$1 billion and employ close to 4,000 people. The energy efficiency industry represents the majority of this revenue and employment.

Energy Efficiency Industry

Washington's energy efficiency industry generates annual sales of about \$780 million and employs approximately 2,900 people earning combined annual wages of \$128 million. Energy service companies and engineering firms providing a range of energy management services represent the largest component of the efficiency industry with revenues of \$431 million and employment of 1,300 people. Other sectors of the energy efficiency industry include companies that design, build, and install energy efficient lighting systems; various controls and other electrical equipment; and heating, ventilating, and air conditioning (HVAC) systems.

This report's estimate of the size of the energy efficiency industry is conservative because it only includes firms that identify themselves as working in the energy efficiency field or that other organizations have previously classified as members of the industry. Many other companies design, build, and install energy efficient equipment and buildings in their normal course of business but do not identify themselves as members of the energy efficiency industry. State energy codes for residential and commercial construction make most companies involved in new construction and equipment replacement effective members of the energy efficiency business, but these companies are generally not included in this industry assessment unless they have specifically identified themselves as energy efficient.

Renewable Energy Industry

Washington's renewable energy industry generates sales of \$147 million and employs 900 people earning combined annual wages of over \$32 million. The firms that build and design solar energy systems and related electricity storage and conversion equipment comprise the largest component of the renewable energy industry. Solar companies in Washington generate sales of \$71 million and employ over 420 people. Other renewable energy firms include companies that design, build, or operate biomass fuel systems, small-scale hydroelectric facilities, wind energy generators, geothermal energy plants, fuel cells, and electric vehicles.

Challenges and Opportunities for Clean Energy

With increased competition in electricity generation, public and private utilities have spent less on programs for energy efficiency and renewable energy. Moreover, the introduction in recent years of highly efficient gas turbine generators, combined with low natural gas prices, has driven wholesale prices of electricity down to levels where some energy efficiency and renewable energy investments are not cost-effective. While these trends present near-term challenges for firms in these industries, interviews with company leaders and other industry experts suggest that the long-term prospects for energy efficiency and renewable energy are brighter.

Several large firms in the renewable energy sector currently have significant markets overseas, and they have excellent opportunities to expand their business in developing countries, particularly in remote locations where their technologies are more cost-effective. Public policy initiatives to reduce greenhouse gases also have the potential to expand the market for energy efficiency and renewable technologies substantially. In addition, several policy initiatives proposed as part of the restructuring of the electricity industry would provide dedicated funding to support energy efficiency and renewable energy programs. The majority of firms interviewed in this study felt that with supportive public policies, their companies had strong potential for future growth.

